Medieval knights rode tiny horses into battle

Warhorses in the Middle Ages were teenier than you think.

Whether an equine animal is classified as a horse or pony depends entirely on its size. The animal is typically measured from the ground to the ridge between their shoulder blades, in units called hands, with one hand equaling 4 inches. Modern horses stand at at least 14.2 hands, or 4-foot-10-inches, and racehorses and showjumpers are often taller, around 16 or 17 hands. The archaeologists found that English medieval knights led their charges on horses shorter than 14.2 hands tall—today they would be classified as ponies, not horses.

A team of zooarchaeologists in the United Kingdom analyzed 1,964 horse bones from 171 different archaeological sites dated between 300-1650 C.E., and compared how those remains measure up to the horses of today. The horses of the Middle Ages, they found, were much slighter than their modern-day descendents—usually no more than pony-size. Their findings were published last August in the *International Journal of Osteoarchaeology*.

The authors note in their paper that while these horses may seem too small to engage in battle, historical records are “notably silent on the specific criteria which defined a warhorse.” They add that it is likely “throughout the medieval period, at different times, different conformations of horses were desirable in response to changing battlefield tactics and cultural preferences.” Size, in other words, was not the only thing that mattered. Medieval horses were probably bred and trained with a combination of biological and temperamental factors in mind, which may have shifted as military strategies changed, requiring the animals to perform different functions.

But it’s also impossible for archaeologists to definitively identify which horse remains belong to steeds who engaged in combat. Without other indications like specific burial records, there’s no way to discern the remains of a warhorse or a farm horse based on bones alone, even if researchers had access to whole skeletons, rather than the single bones they usually get from an individual site.

Popular culture depicts medieval warhorses as majestic creatures—tall, muscular, and powerful, with shining knights atop. But new research shows that the steeds of the Middle Ages were likely much smaller than we would expect.

To tease out more of these horses’ histories, the authors write that they’ll need to conduct more detailed investigations on how bone shape differs between individual horses. Future studies may also use ancient DNA analysis to track ancestry and observe how English horse genomes changed over time.

Yet those horses had a sizable impact, despite their short stature. “The warhorse is central to our understanding of medieval English society and culture as both a symbol of status closely associated with the development of aristocratic identity and as a weapon of war famed for its mobility and shock value, changing the face of battle,” University of Exeter archaeologist and principal investigator for the research, Oliver Creighton, said in a statement.

Source: https://www.popsci.com/science/medieval-knights-rode-tiny-horses/

World set to ‘temporarily’ breach major climate threshold in next five years

It likely won’t last more than one year, but it’s a wake-up call.

Scientists believe that there is a 62 percent chance that an El Niño will develop by the end of this year. El Niño is a natural part of an oscillating weather system that develops in the Pacific Ocean. Earth has been in a rare “triple dip” of the opposing phase called La Niña for the past three years. La Niña typically has had a dampening effect on temperature increases around the world. With the new El Niño developing, there is a 98 percent chance that at least one of the next five years will be the hottest on record, according to the WMO.

The WMO forecasts that global temperatures are expected to surge to record levels fueled by heat trapping gasses and a naturally occurring El Niño event. The organization also predicts that the annual average near-surface temperature will be over the threshold for at least one year between 2023 and 2027.

“Global mean temperatures are predicted to continue increasing, moving us away further and further away from the climate we are used to,” Leon Hermanson, a Met Office expert scientist who led the report, said in a statement.

According to the WMO, these new findings do not mean that Earth will permanently exceed the 2.7°F level that was specified in the Paris Agreement. The organization believes that the jump would be a temporary, and is not as worrisome as the agreed-upon climate danger point.

Scientists do not believe that the anomaly will occur this year, but the chance of temporarily exceeding this threshold has risen steadily since 2015, when it was close to zero. Between 2017 and 2021, there was only a 10 percent chance of exceeding this target.

“A warming El Niño is expected to develop in the coming months and this will combine with human-induced climate change to push global temperatures into uncharted territory. This will have far-reaching repercussions for health, food security, water management and the environment. We need to be prepared,” WMO Secretary-General Petteri Taalas said in a statement.

Warming in the arctic is also disproportionately high. This region heats much faster than the rest of the world, largely because as sea ice melts, solar radiation can no longer be reflected back and the heat is absorbed. This rapid warming is affecting global weather patterns and the jet stream.

Reaching this point, even just for a single year, would represent an acceleration of human impacts on the global climate system and send the world into “uncharted territory,” since average surface temperatures have never breached the threshold in recorded history. The highest average in previous years was 2.5 °F (1.28°C) above pre-industrial levels.

Within the next five years, the planet is 66 percent likely to reach 2.7°F (1.5°C) of warming according to a jarring new update from the World Meteorological Organization (WMO). 2.7°F is the internationally accepted global temperature threshold for limiting the worst effects of climate change.

The 2015 Paris climate agreement set 2.7°F as a guardrail against increasingly dangerous atmospheric warming, and over 100 countries including the United States, Argentina, China, and Egypt, pledged to prevent long-term warming if possible. A special United Nations report from 2018 said going past this point would be dangerous and lead to significantly more death, destruction, and damage to global ecosystems.

Source: https://www.popsci.com/environment/wmo-climate-change-el-nino-heat/